

Remarks

Claims 1, 3, 6-12, 14, 16-20, 22-31, and 33-55 are currently pending. Claims 2, 4-5, 13, 15, 21, and 32 are canceled herein. Claims 1, 6, 9, 12, 14, 16-17, and 27-29 are amended herein. New claims 33-55 are added herein, the support for which is detailed below.

Claim 1 has been amended to recite a method comprising contacting the cell with a polyplex formed from an interaction between a biologically active molecule and a cellular delivery polymer, wherein the cellular delivery polymer is selected from the group consisting of polyhydroxylamidoamines, cyclodextrin-based dendritic macromolecules, 1,3-dipolar addition polymers, and carbohydrate-containing biodegradable polyesters. Support for this amendment can be found, for example, in Claim 5 as originally filed and at paragraphs [0055]-[0057] and [0079]-[0080] of the specification as originally filed.

Claim 6 has been amended to recite proper dependency from Claim 3.

Claim 9 has been amended to recite a kit comprising at least one biologically active molecule and at least one cellular delivery polymer, “wherein the cellular delivery polymer is selected from the group consisting of polyhydroxylamidoamine, cyclodextrin-based dendritic macromolecules, 1,3-dipolar addition polymers, and carbohydrate-containing biodegradable polyesters.” Support for this amendment can be found, for example, at paragraphs [0055]-[0057], [0079]-[0080], and [0143] of the specification as originally filed.

Claim 12 has been amended to recite a complex wherein the cellular delivery polymer is selected from the group consisting of polyhydroxylamidoamines, cyclodextrin-based dendritic macromolecules, 1,3-dipolar addition polymers, and carbohydrate-containing biodegradable polyesters. Support for this amendment can be found, for example, at paragraphs [0055]-[0057] and [0079]-[0080] of the specification as originally filed.

Claims 14, 16, 27, 28, and 29 have been amended to replace the term “biologically active molecule” with the term “agent that is desirably taken up by cells.” Antecedent basis for this term is found in Claim 12, as originally filed.

Claim 17 has been amended to recite proper dependency from Claim 16.

Claim 29 has been amended to recite proper dependency from Claim 27.

Claim 33 is added herein, and recites a method according to Claim 1 wherein the poly(hydroxylamidoamine) comprises a poly(glycoamidoamine), a poly(L-tartaramidoamine), a poly(D-glucaramidoamine), a poly(galactaramidoamine), or a poly(D-mannaramidoamine). Support for the recited poly(hydroxylamidoamines) can be found, for example, at paragraphs [0059], [0072], and the figure on page 19, prior to paragraph [0064].

Claim 34 is added herein, and recites a method according to Claim 33, wherein the poly(glycoamidoamine) comprises a polymerization product of a diamine and a diester or dilactone carbohydrate derivative. Support for this claim can be found, for example, at paragraph [0063] of the specification as originally filed.

Claim 35 is added herein, and recites a method according to Claim 33, wherein the poly(L-tartaramidoamine) comprises a polymerization product of an amine comonomer with dimethyl L-tartrate. Support for this claim can be found, for example, at paragraph [0065] of the specification as originally filed.

Claim 36 is added herein and recites a method according to Claim 35, wherein the poly(L-tartaramidoamine) comprises poly(L-tartaramidodiethyleneamine), poly(L-tartaramidotriethylenediamine), poly(L-tartaramidotetraethylenetriamine), or poly(L-tartaramidopentaethylenetetramine). Support for the recited poly(L-tartaramidoamines) can be found, for example, at paragraphs [0064]-[0070] of the specification as originally filed.

Claim 37 is added herein and recites a method according to Claim 33, wherein the poly(D-glucaramidoamine) comprises a polymerization product of an amine comonomer and esterified D-glucaric acid. Support for this claim is found, for example, at paragraph [0072] of the specification as originally filed.

Claim 38 is added herein and recites a method according to Claim 37, wherein the poly(D-glucaramidoamine) comprises poly(D-glucaramidodiethyleneamine), poly(D-glucaramidotriethylenediamine), and poly(D-glucaramidotetraethylenetriamine). Support for

these poly(D-glucaramidoamines) can be found, for example, at paragraphs [0073]-[0075] of the specification as originally filed.

Claim 39 is added herein and recites a method according to Claim 33, wherein the poly(galactaramidoamine) comprises a polymerization product of a diamine comonomer with dimethyl-*meso*-galactarate. Support for this claim can be found, for example, at paragraphs [0059]-[0060] of the specification as originally filed.

Claim 40 is added herein and recites a method according to Claim 33, wherein the poly(galactaramidoamine) comprises poly(galactaramidodiethylenamine), poly(galactaramidotriethylenediamine), poly(galactaramidotetraethylenetriamine), or poly(galactaramidopentaethylenetetramine). Support for these poly(galactaramidoamines) can be found, for example, in part (b) of the figure on page 19, prior to paragraph [0064] of the specification as originally filed. The recited poly(galactaramidoamines) are obtained when the parenthetical value is 1, 2, 3, and 4, respectively.

Claim 41 is added herein and recites a method according to Claim 33, wherein the poly(D-mannaramidoamine) comprises a polymerization product of an amine comonomer with D-mannaro1,4:6,3-dilactone. Support for this claim is found, for example, at paragraph [0060] of the specification as originally filed.

Claim 42 is added herein and recites a method according to Claim 33, wherein the poly(D-mannaramidoamine) comprises poly(D-mannaramidodiethylenamine), poly(poly(D-mannaramidotriethylenediamine), poly(D-mannaramidotetraethylenetriamine), or poly(D-mannaramidopentaethylenetetramine). Support for these poly(D-mannaramidoamines) can be found, for example, in part (c) of the figure on page 19, prior to paragraph [0064] of the specification as originally filed. The recited poly(D-mannaramidoamines) are obtained when the parenthetical value is 1, 2, 3, and 4, respectively.

Claim 43 is added herein and recites a method according to Claim 33, wherein the poly(D-mannaramidoamine) is depicted by a recited structure. Support for the structure is

found, for example, in part (c) of the figure on page 19, prior to paragraph [0064], and paragraph [0061] (value of n) of the specification as originally filed.

Claim 44 is added herein and recites a method according to Claim 33 wherein the poly(D-glucaramidoamine) is depicted by a recited structure. Support for the structure is found, for example, in part (a) of the figure on page 19, prior to paragraph [0064], paragraph [0077], and paragraph [0061] (value of n) of the specification as originally filed.

Claim 45 is added herein and recites a method according to Claim 33 wherein the poly(galactaramidoamine) is depicted by a recited structure. Support for the structure is found, for example, in part (b) of the figure on page 19, prior to paragraph [0064], and paragraph [0061] (value of n) of the specification as originally filed.

Claim 46 is added herein and recites a method according to Claim 33 wherein the poly(L-tartaramidoamine) is depicted by a recited structure. Support for the structure is found, for example, in the figure following paragraph [0070] and paragraph [0061] (value of n) of the specification as originally filed.

Claim 47 is added herein and recites a method according to Claim 1, wherein the cyclodextrin-based dendritic macromolecule comprises a dendrimer formed from a reaction between an appropriately substituted cyclodextrin and a polyamine, the dendrimer comprising a cyclodextrin core and an oligoamine shell comprising polyamine chains attached to the cyclodextrin core, wherein the cyclodextrin comprises alpha, beta or gamma cyclodextrin. Support for this claim can be found, for example, at paragraph [0080] of the specification as originally filed.

Claim 48 is added herein and recites a method according to Claim 47, wherein the dendritic macromolecule comprises cyclodextrin/thiol-diethylentriamine dendrimer of the recited structure. Support for this claim can be found, for example, at paragraph [0081], including the structure depicted on page 24, of the specification as originally filed.

Claim 49 is added herein and recites a method according to Claim 48, wherein the dendritic macromolecule comprises a cyclodextrin-triazole dendrimer of the recited structure.

Support for this claim can be found, for example, at paragraph [0082] and the figure at the top of page 26 of the specification as originally filed.

Claim 50 is added herein and recites a method according to Claim 49, wherein the triazole dendrimer is formed by click addition of an acetylated per-azido cyclodextrin and an alkyne dendron. Support for this claim is found, for example, at paragraphs [0082]-[0083] of the specification as originally filed.

Claim 51 is added herein and recites a method according to Claim 1, wherein the 1,3-dipolar addition polymer is prepared by combining a carbohydrate diazide monomer with a dialkyne unit comprising oligamines. Support for this claim is found, for example, at paragraph [0085] of the specification as originally filed.

Claim 52 is added herein and recites a method according to Claim 51 wherein the carbohydrate diazide comprises a cyclodextrin. Support for this claim is found, for example, at paragraph [0085] and the figure at the top of page 27 of the specification as originally filed.

Claim 53 is added herein and recites a method according to Claim 51, wherein the 1,3-dipolar addition polymer is depicted by the recited structure. Support for the recited structure is found in the figure at the top of page 27 of the specification as originally filed.

Claim 54 is added herein and recites a method according to Claim 1, wherein the carbohydrate-containing biodegradable polyester comprises repeating carbohydrate molecules bound to oligoamine residues via an ester bond. Support for this claim is found, for example, at paragraph [0087] of the specification as originally filed.

Claim 55 is added herein and recites a method according to Claim 1 wherein the poly(hydroxylamidoamine) is prepared by condensation of an appropriately substituted diester and an appropriately substituted diamine comonomer. Support for this claim is found, for example, at paragraphs [0058]-[0059] of the specification as originally filed.

Conclusion

It is believed that no new matter has been added. Accordingly, entry of the present Preliminary Amendment is in order and is respectfully requested. Applicant respectfully submits that the present application is ready for examination on the merits.

Applicant originally paid fees for a total of 32 claims, including 3 independent claims. By the present Preliminary Amendment, the claim number stands at 48 total claims, including 3 independent claims. Accordingly, the fee for 16 additional dependent claims is included with this Amendment. Please charge any additional fees required in connection with the present Amendment, and credit any excess in fees paid, to Deposit Account No. 04-1133.

Respectfully submitted,

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